

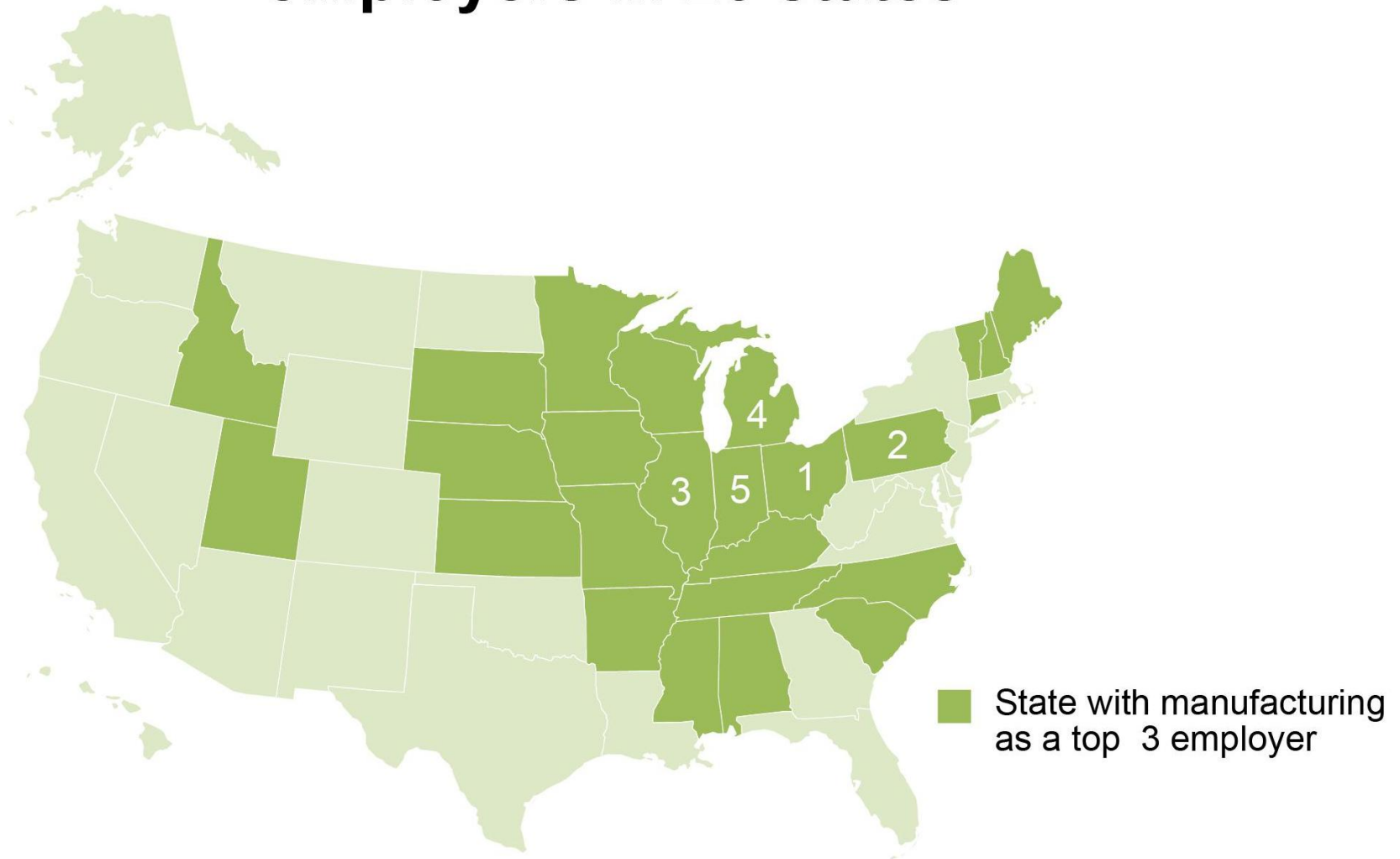
# What is Manufacturing?

**Manufacturing – Mechanical, physical, or chemical transformation of materials, substances or components into new products.**

# Importance of Manufacturing

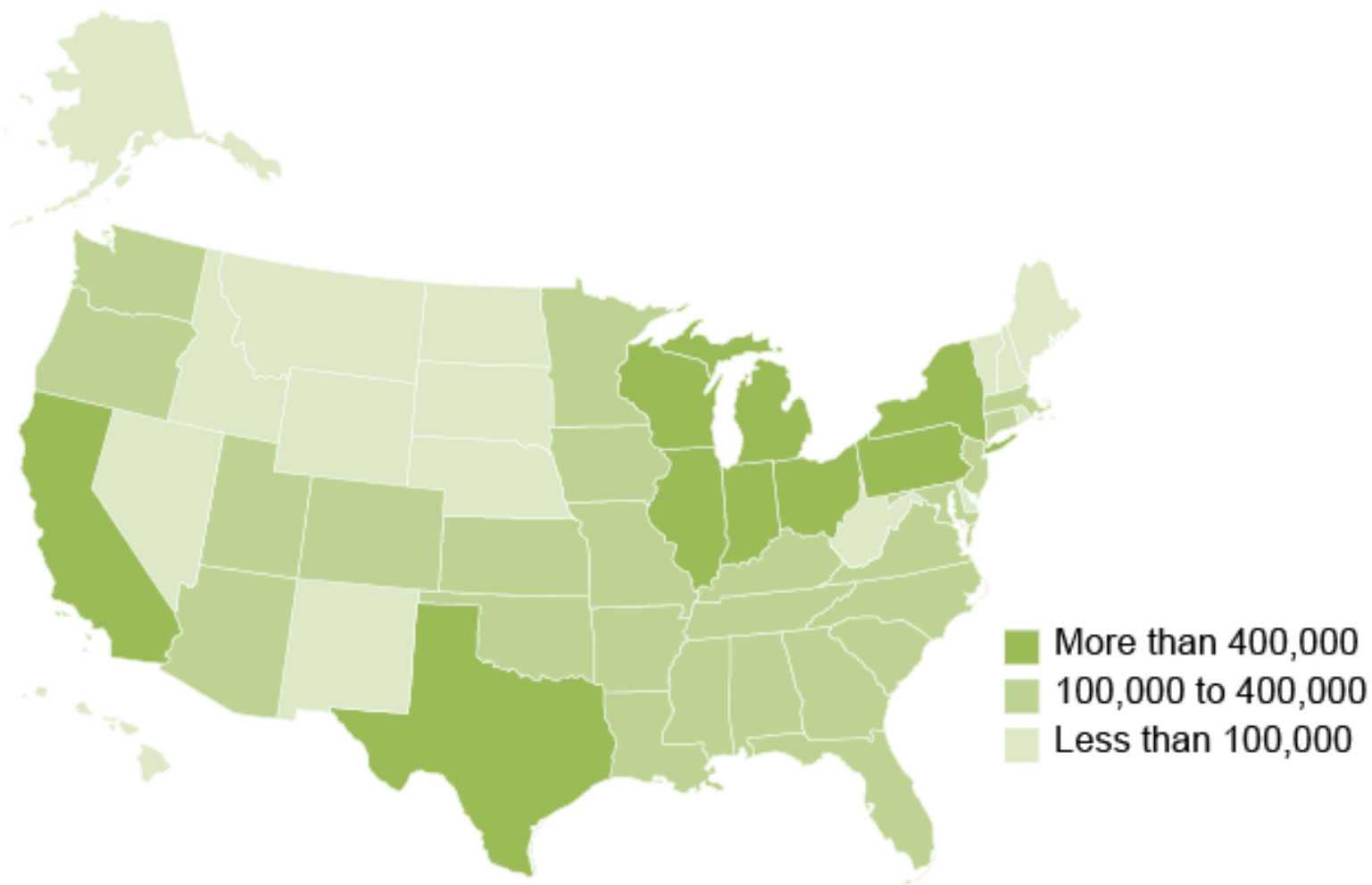
- U. S. is the world's largest manufacturing country, producing approximately **21 %** of the world's manufactured goods. **Source: United Nations, 2009.**
- Manufacturing comprises **11.7 %** of GDP.  
**Source: US Bureau of Economic Analysis.**
- Manufacturing comprises **9.0 %** of total U.S. employment, directly employing 10.9 **million** workers.  
**Source: US Census Bureau**
- **70 %** of all business Research & Development in the U.S. is done by manufacturing companies. **Source: National Science Foundation**

# Manufacturing is one of the top 3 employers in 25 states



Source: 2010 County Business Patterns

## Manufacturing Employees by State



Source: 2010 County Business Patterns

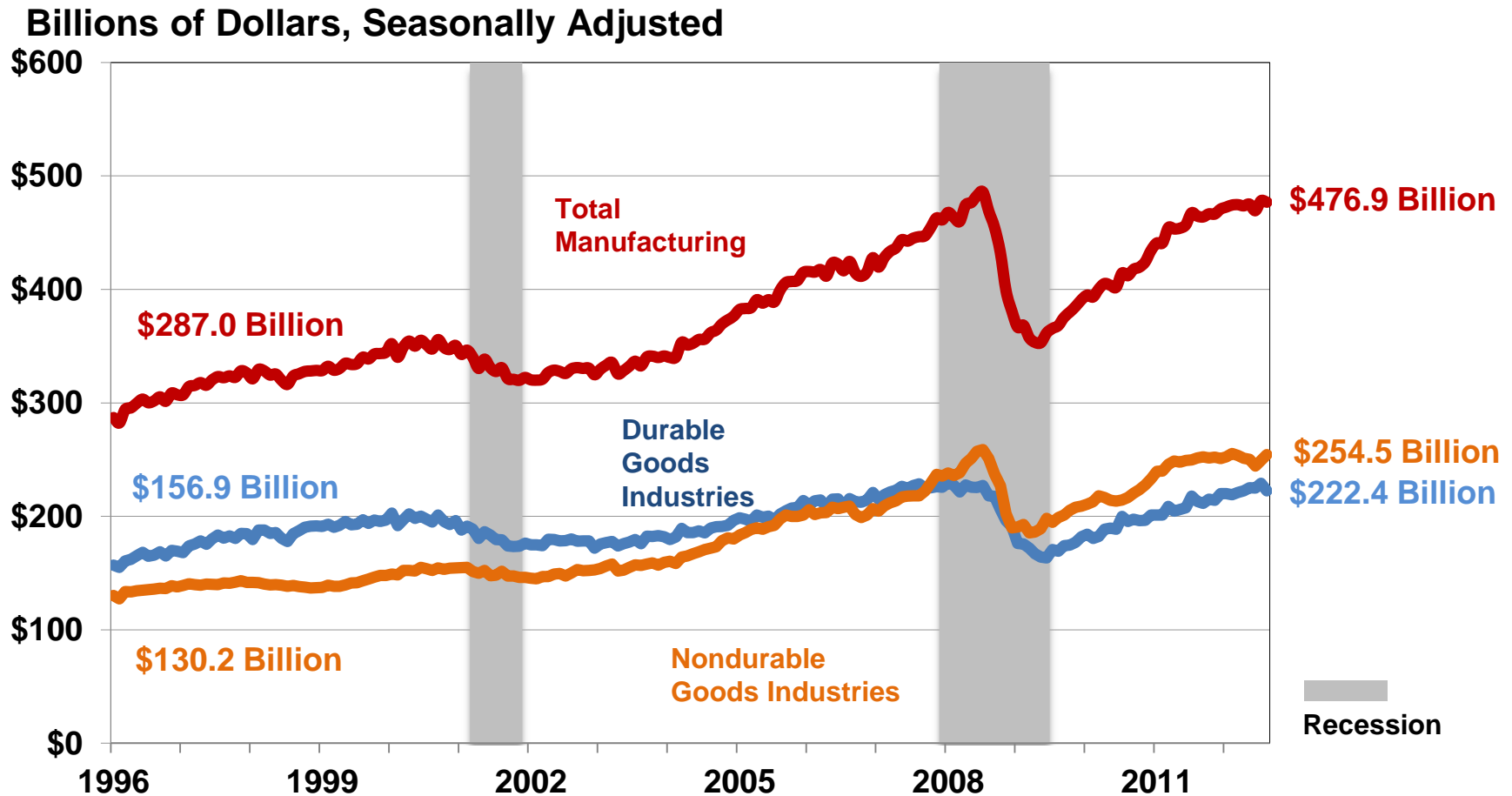
# Types of Manufacturing

- **15% Transportation Equipment**
  - Automobile manufacturers
  - Aircraft manufacturers
- **7% Machinery**
  - Construction Machinery
  - Farm Machinery
- **13% Food Products**
  - Grain Milling
  - Meat, poultry and seafood production
- **14% Petroleum and Coal Products**
  - Petroleum Refineries
  - Asphalt Plants

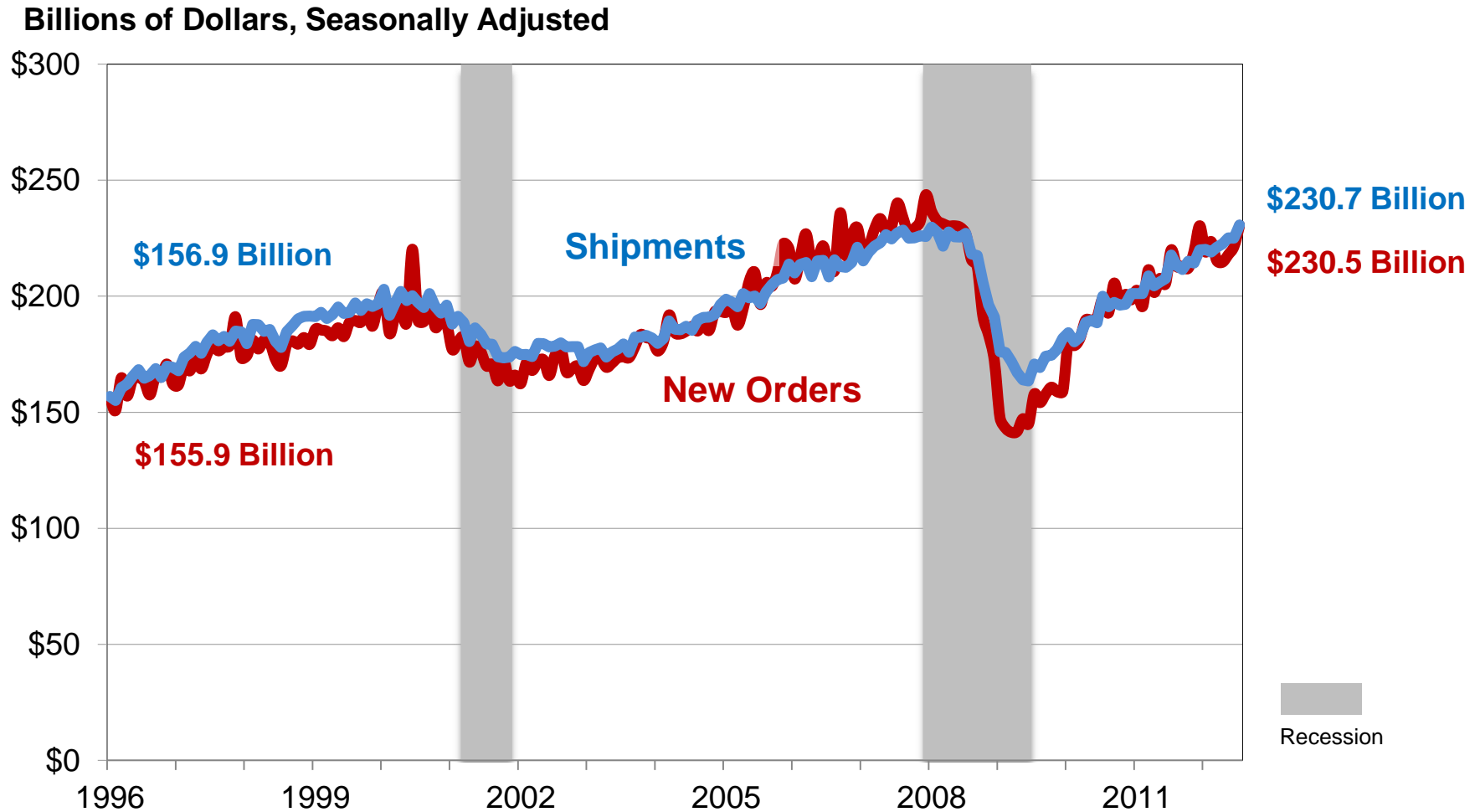
# Types of Manufactured Goods

- **Durable Goods – Hard Goods:** Goods that generally last 3 years or longer.
  - Examples: **Automobiles, jewelry, tractors**
- **Non-Durable Goods – Soft Goods or consumables:** Goods that are used immediately or consumed in less than 3 years.
  - Examples: **Gasoline, food, beverages.**

# Value of Shipments of Manufacturing Industries: January 1996 - August 2012

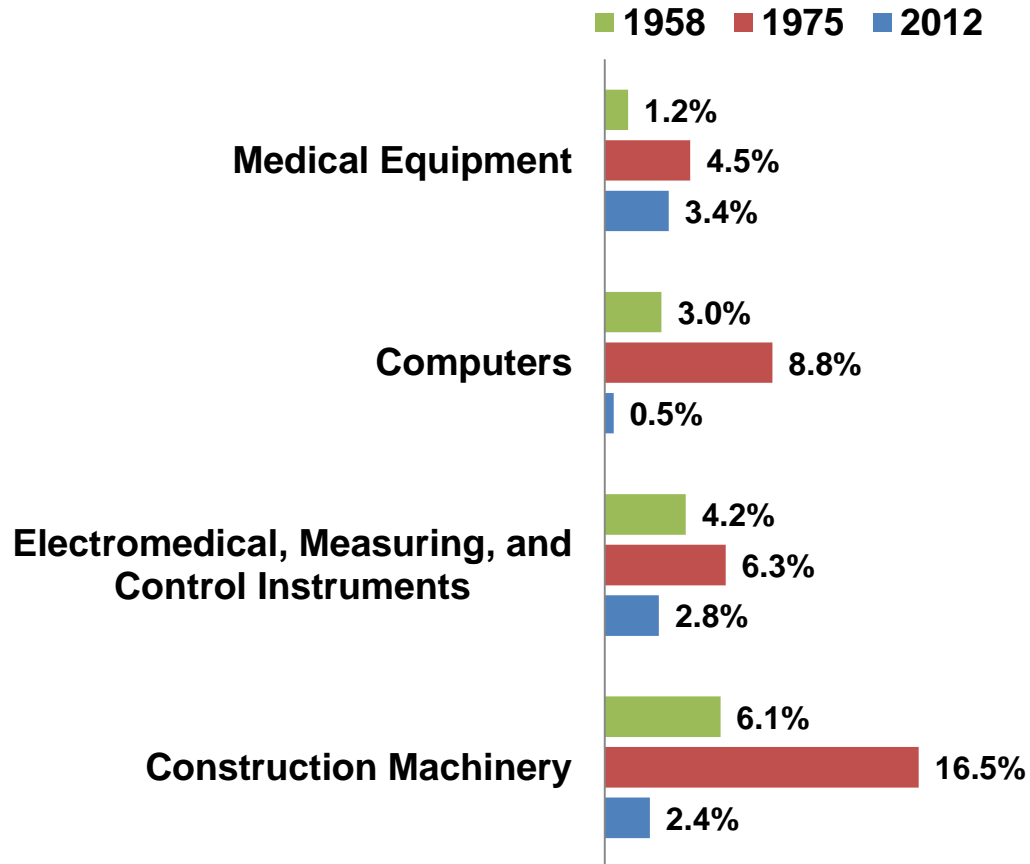


# Shipments and New Orders of Durable Goods: January 1996 - July 2012



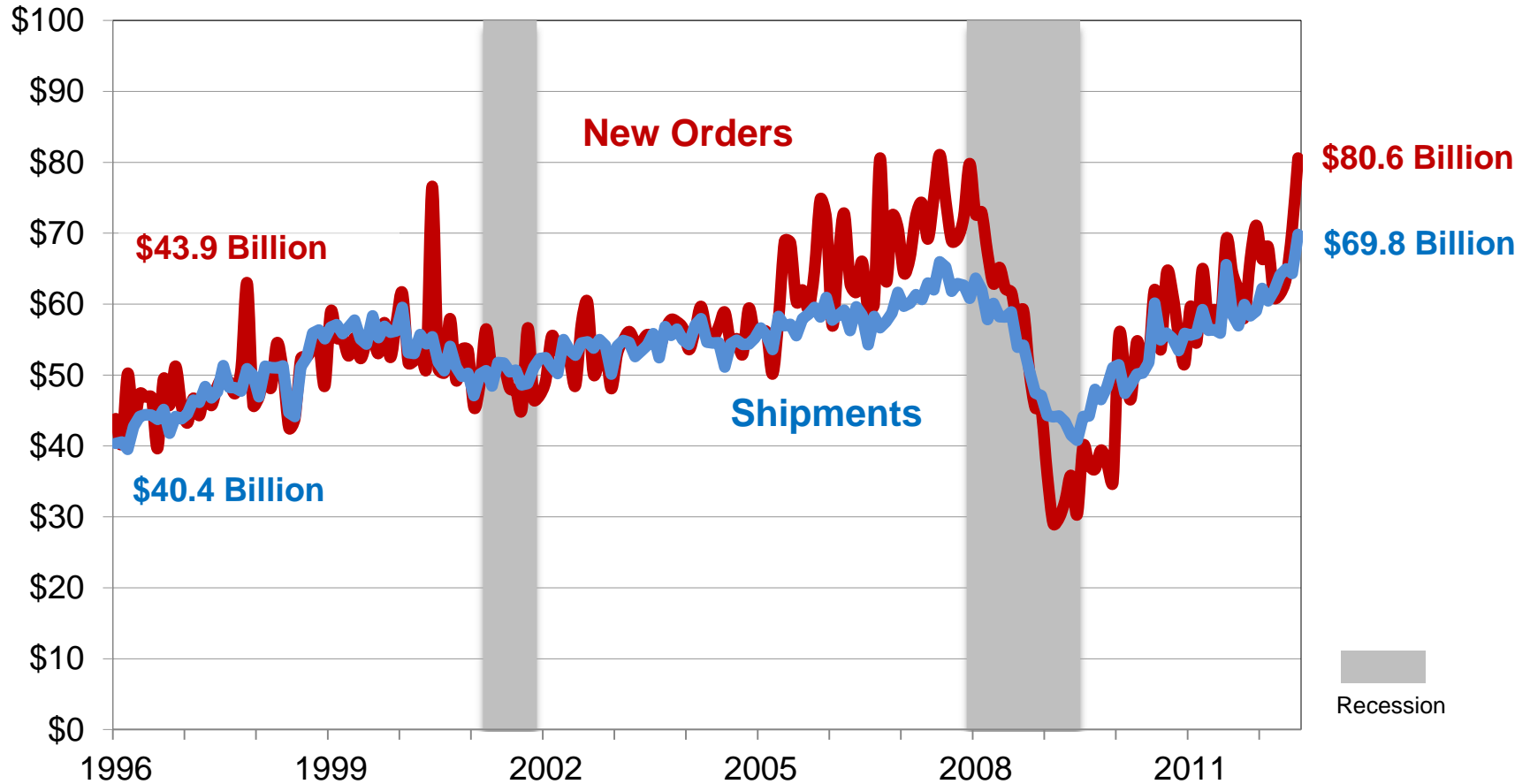


# Historical Percentage of Shipments of Select Durable Goods: July 2012



# Shipments and New Orders of Transportation Equipment: January 1996 – July 2012

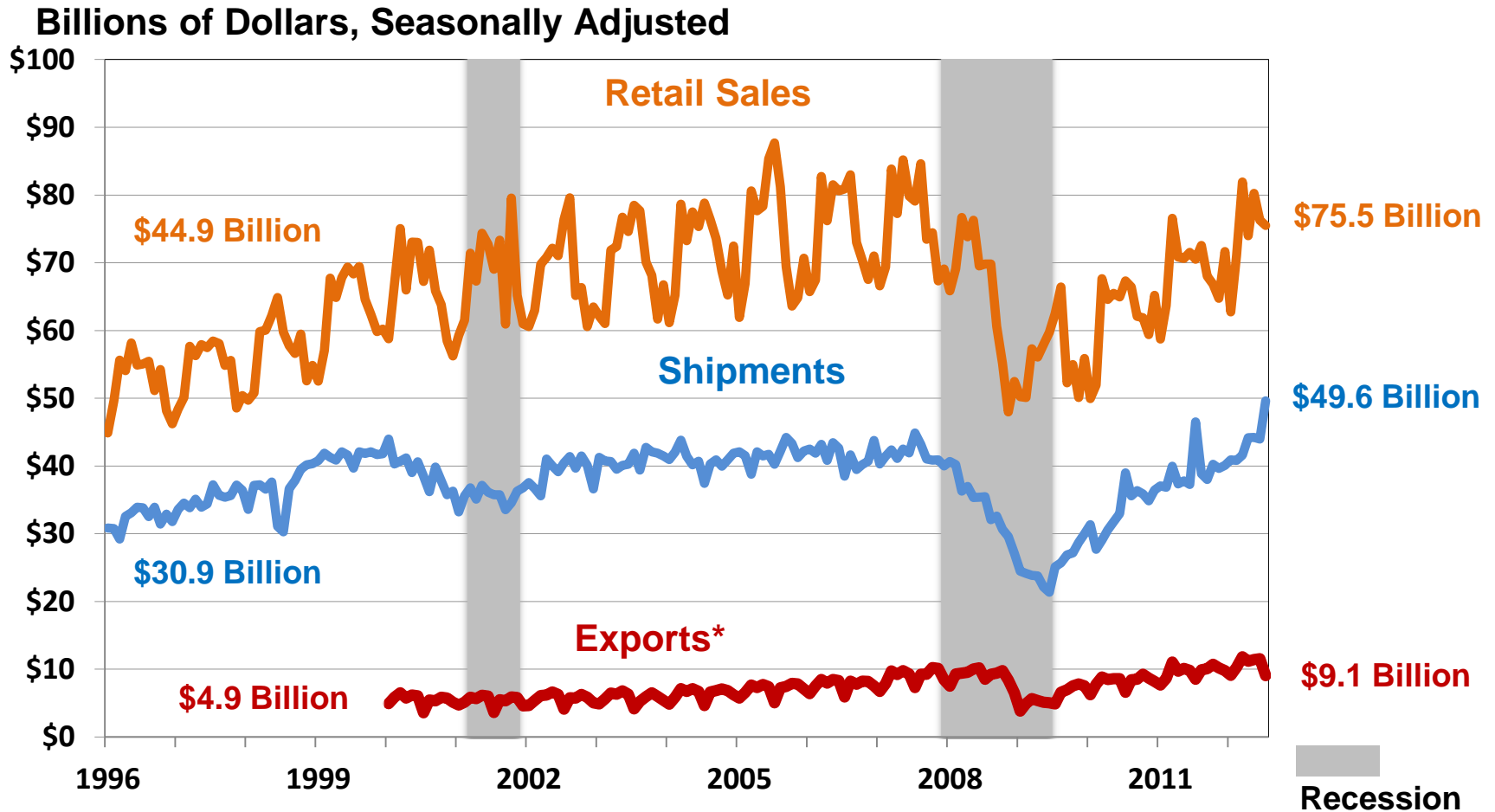
Billions of Dollars, Seasonally Adjusted



# Shipments and Exports, U.S. Manufacturing: 2000 – 2011



# Sales, Shipments, and Exports of Motor Vehicle and Parts: January 1996 - July 2012



Source: U.S. Census Bureau, Manufacturers' Shipments, Inventories, and Orders Survey, 1996-2012  
 U.S. Census Bureau, Monthly Retail Trade Survey, 1996 -2012  
 \*U.S. Census Bureau, Foreign Trade Division, U.S. Trade 2000 – 2012. Export data not seasonally adjusted.

## Average Annual Payroll per Employee by sector, 2010 (dollars)



## Total employment by sector, 2010 (in millions)

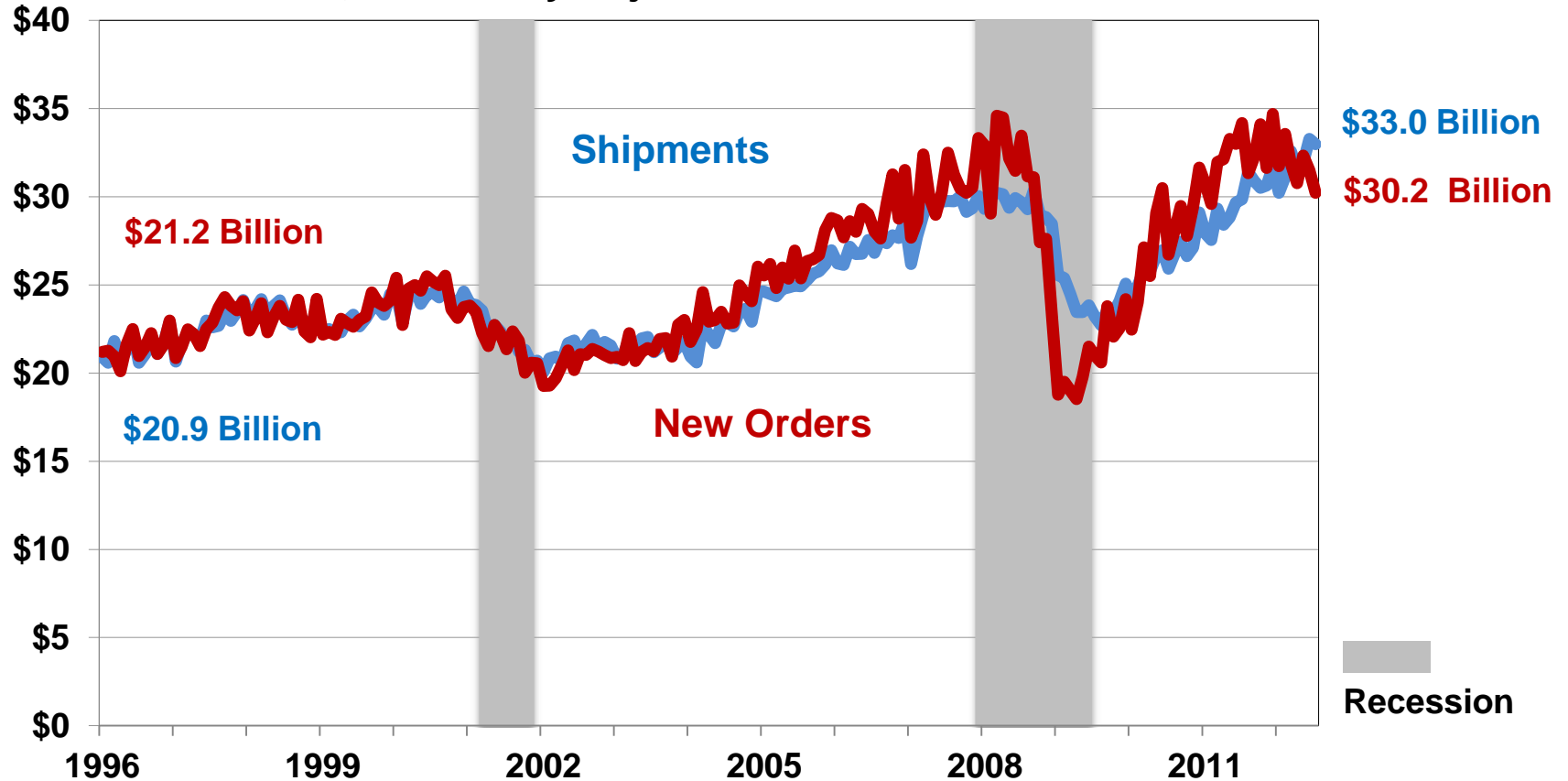


# Examples of Machinery

- **Construction equipment:** Bulldozers, Backhoes, Road Graders
- **Industrial Machinery:** Used to produce products such as, textiles, semiconductors, plastics, rubber and food processing.
- **Material Handling equipment:** Elevators, Moving stairways, Conveyors, Stacker Machinery
- **Farm Machinery:** Tractors, Combines, Plows

# Shipments and New Orders of Machinery: January 1996 – July 2012

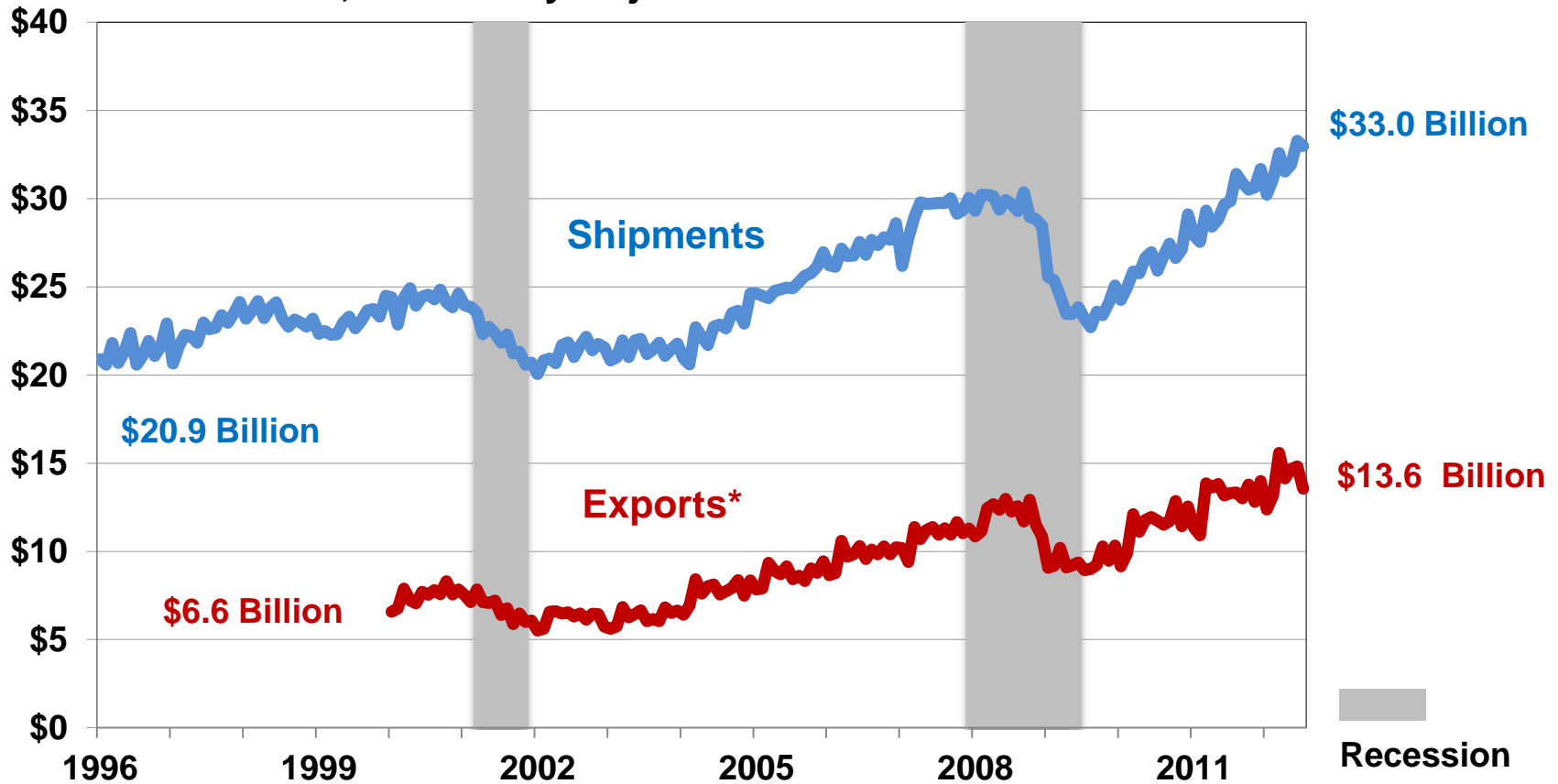
Billions of Dollars, Seasonally Adjusted





# Shipments and Exports of Machinery: January 1996 – July 2012

Billions of Dollars, Seasonally Adjusted



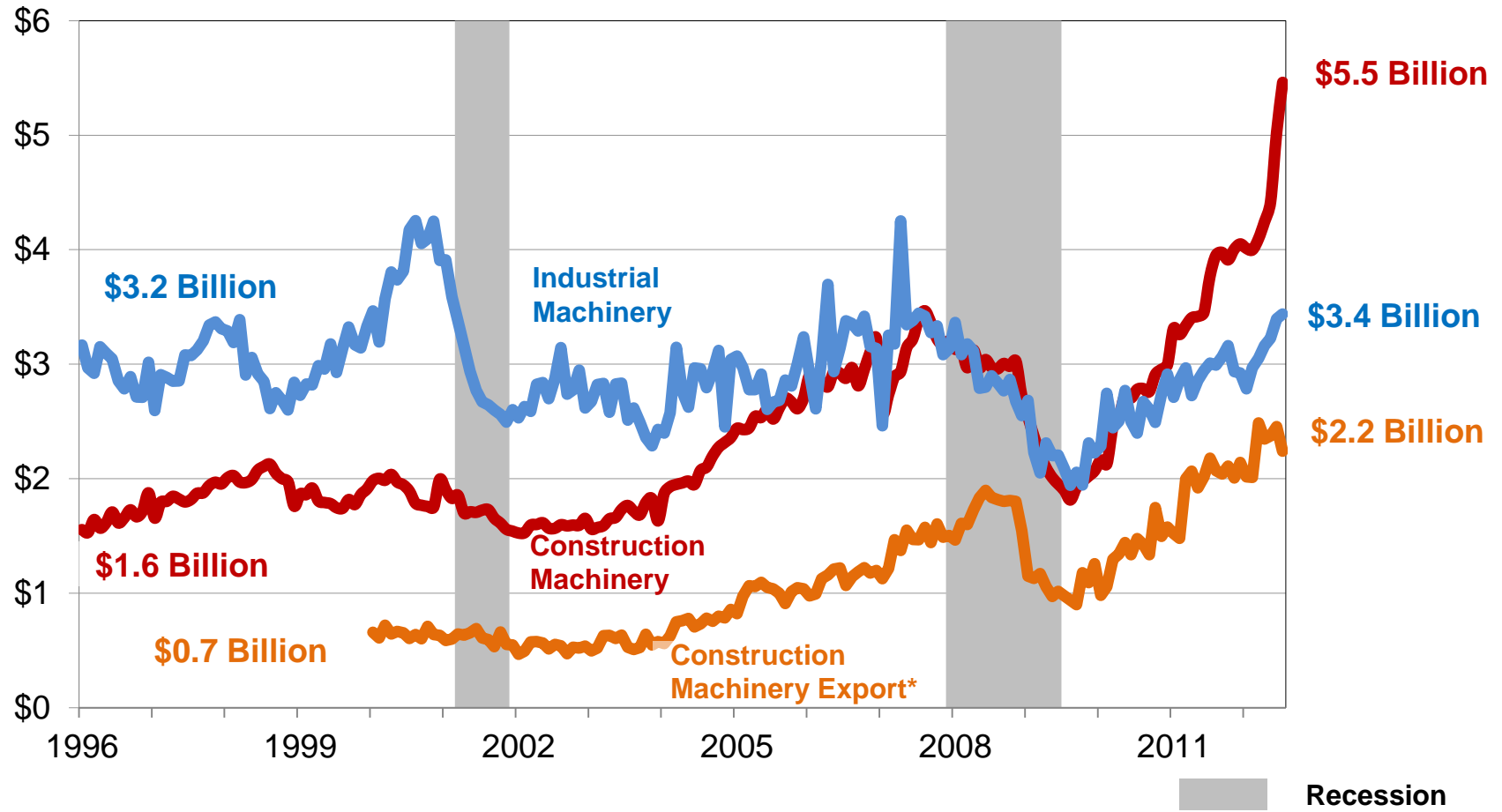
Source: U.S. Census Bureau, Manufacturers' Shipments, Inventories, and Orders Survey, 1996-2012

U.S. Census Bureau, Monthly Retail Trade Survey, 1996 -2012

\*U.S. Census Bureau, Foreign Trade Division, U.S. Trade 2000 – 2012. Export data not seasonally adjusted.

# Comparison of Shipments and Exports of Construction Machinery to Shipments of Industrial Machinery: January 1996 – July 2012

Billions of Dollars, Seasonally Adjusted



Source: U.S. Census Bureau, Manufacturers' Shipments, Inventories, and Orders Survey, 1996-2012  
 U.S. Census Bureau, Monthly Retail Trade Survey, 1996 -2012  
 \*U.S. Census Bureau, Foreign Trade Division, U.S. Trade 2000 – 2012. Export data not seasonally adjusted.

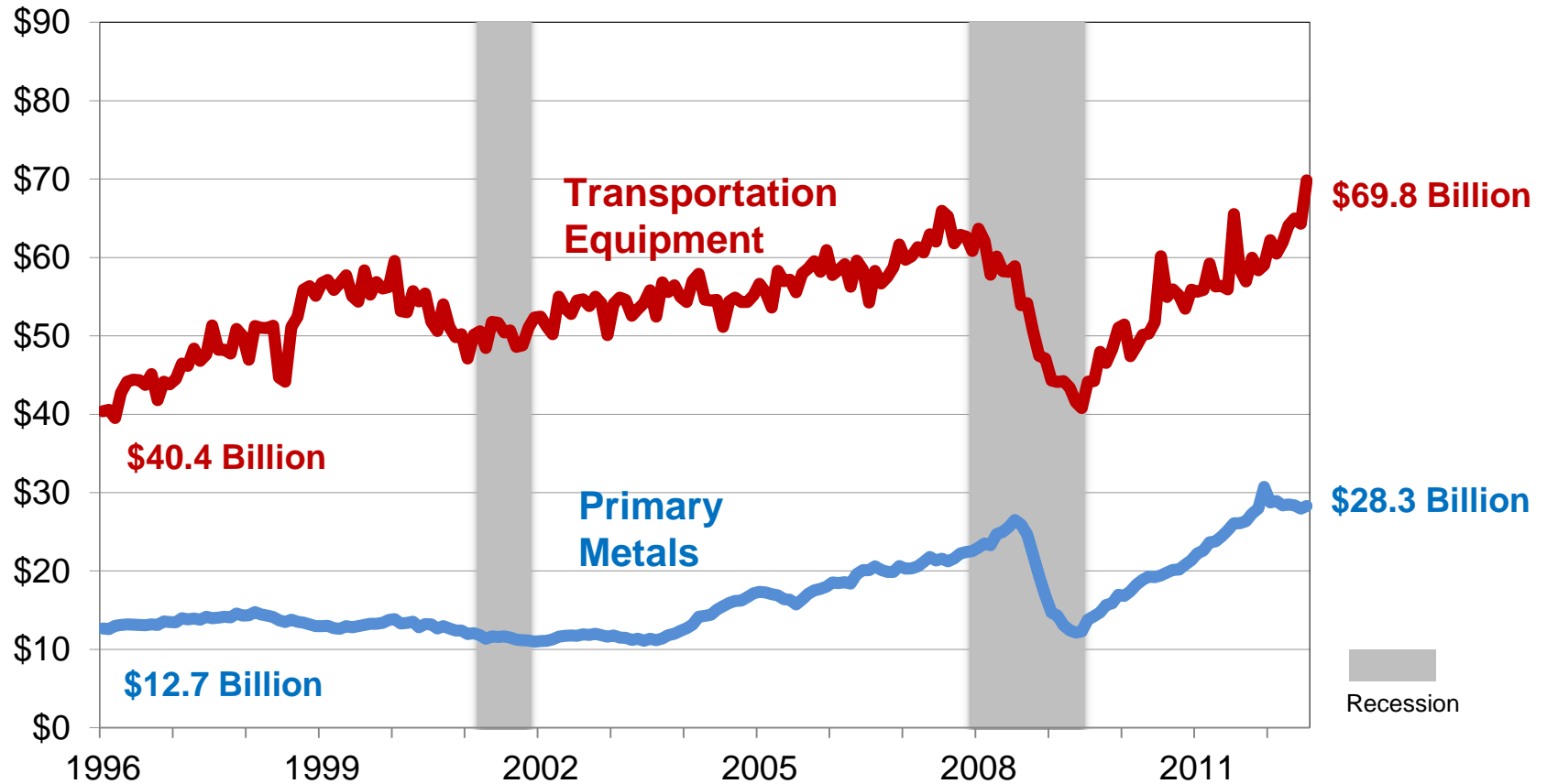
# Why are Primary Metals Important to the Economy?

- Base manufacturing industry
- Feeds into other sectors of the economy, from the manufacturing of automobiles to fabricated structural steel for construction projects like bridges or new office buildings.

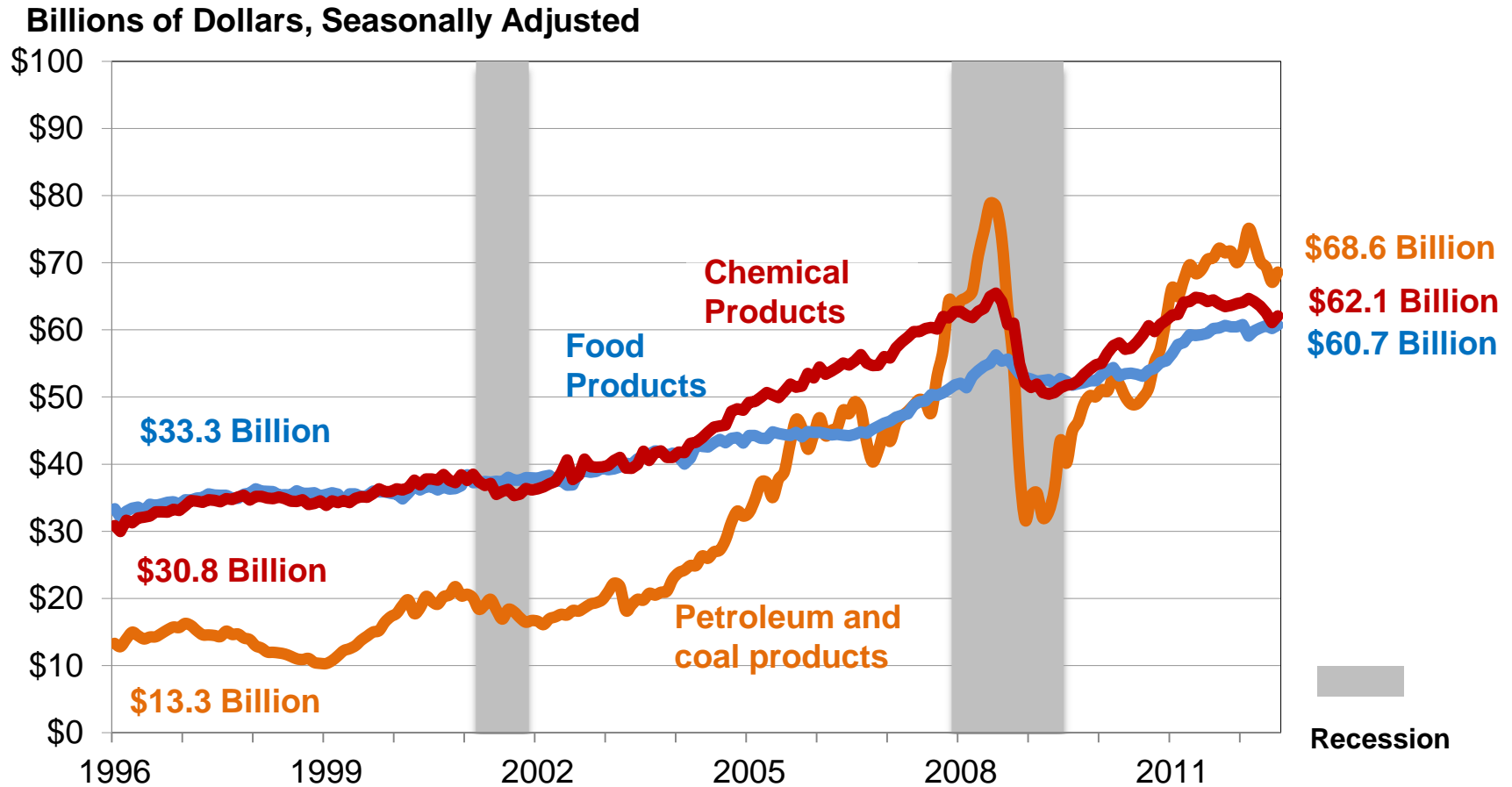
Source: U.S. Census Bureau, Manufacturers' Shipments, Inventories, and Orders Survey, 1996-2012

# Shipments of Primary Metals and Transportation Equipment: January 1996 – July 2012

Billions of Dollars, Seasonally Adjusted

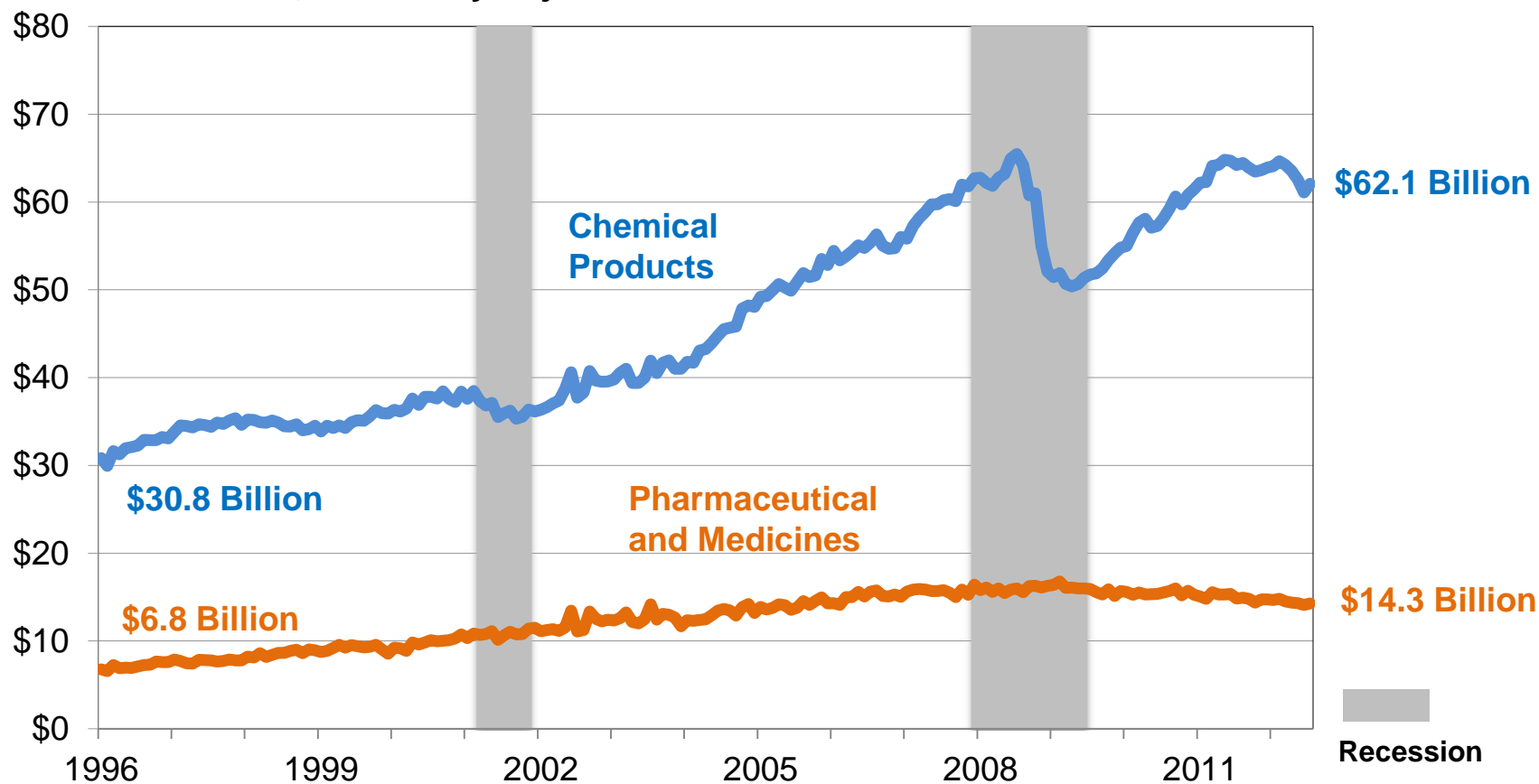


# Shipments of Food products, Petroleum and Coal Products, and Chemical Products: January 1996 – July 2012

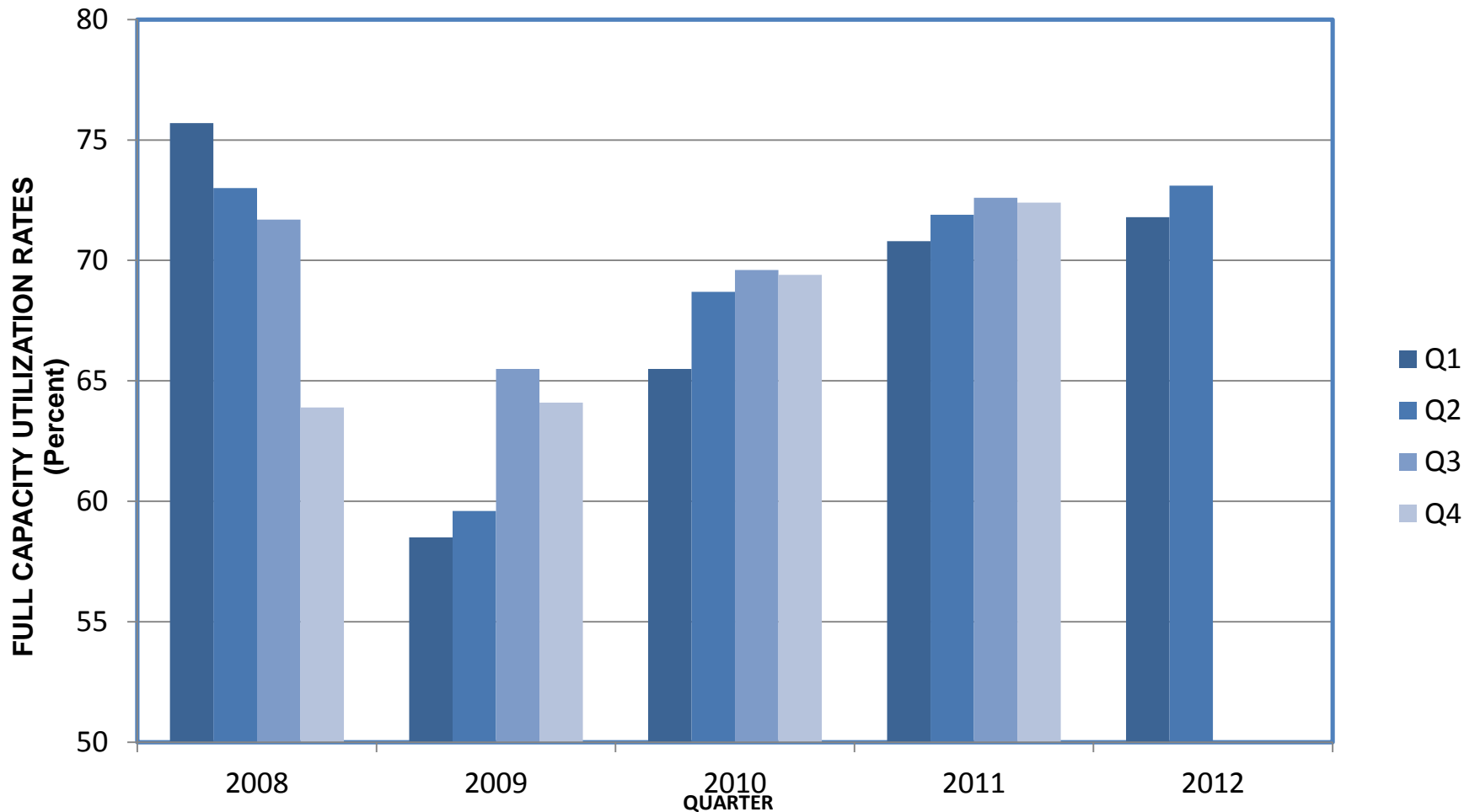


# Shipments of Chemical Products and Pharmaceuticals and Medicines: January 1996 – July 2012

Billions of Dollars, Seasonally Adjusted

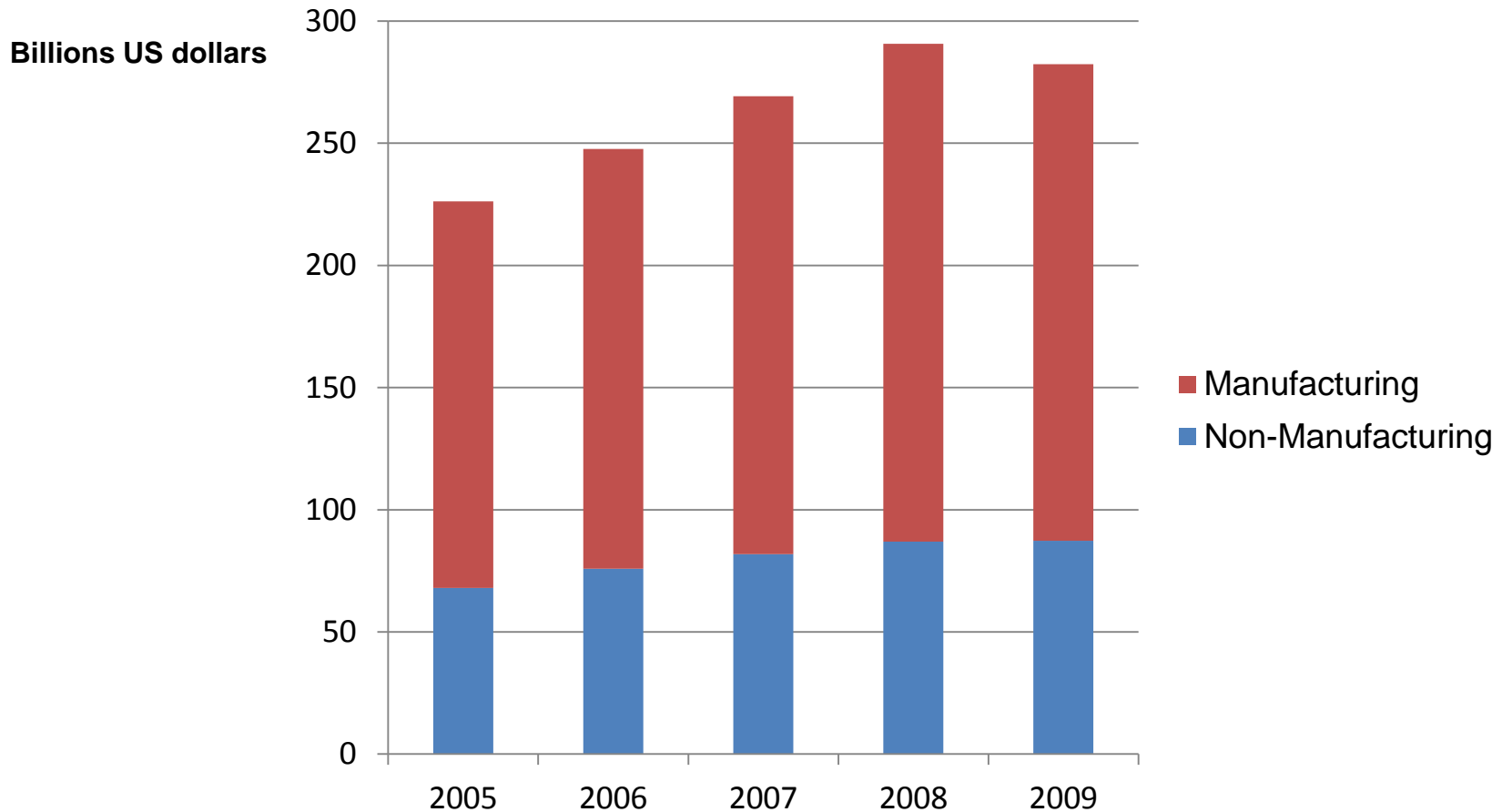


# Capacity Utilization Rates of U.S. Manufacturing: 2008-2012



# Manufacturing companies account for majority of US R&D performance

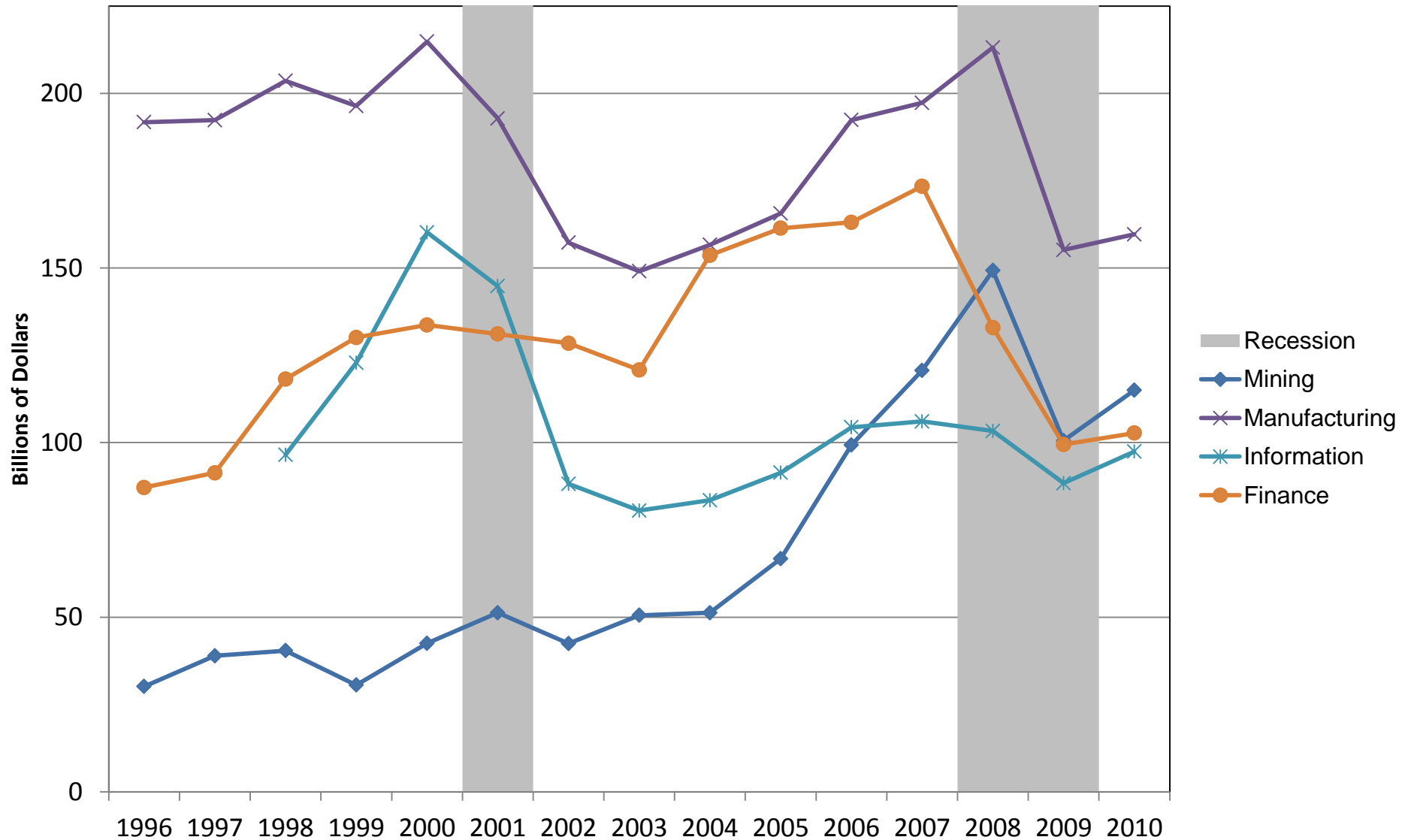
Since 2004, Manufacturing companies have accounted for about 70% of total domestic R&D performance annually.



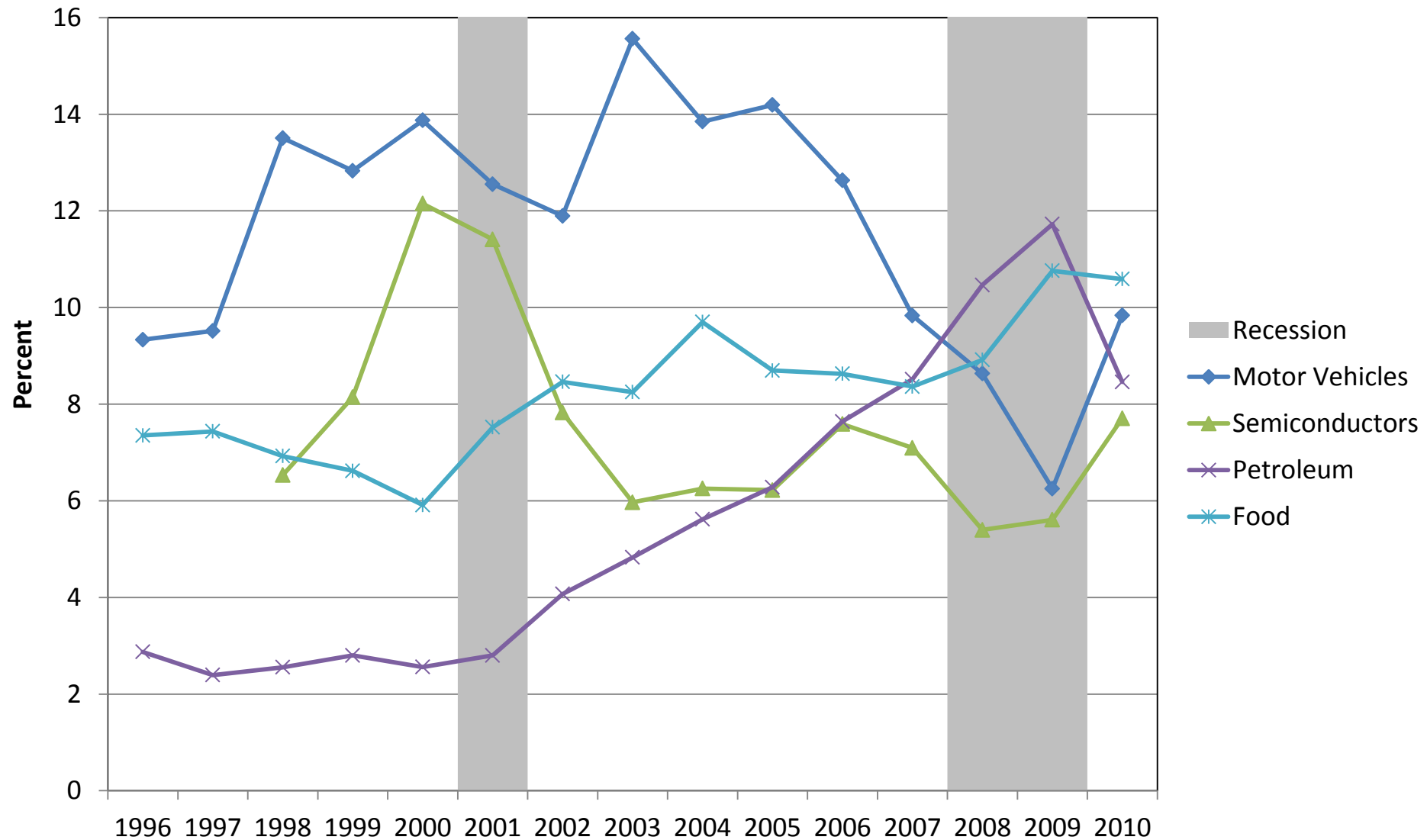
Source: National Science Foundation and U.S. Census Bureau, Survey of Industrial Research and Development 2004 – 2007; Business R&D and Innovation Survey 2008 - 2009



# Total Capital Expenditures for Selected U.S. Industry Sectors: 1996 to 2010

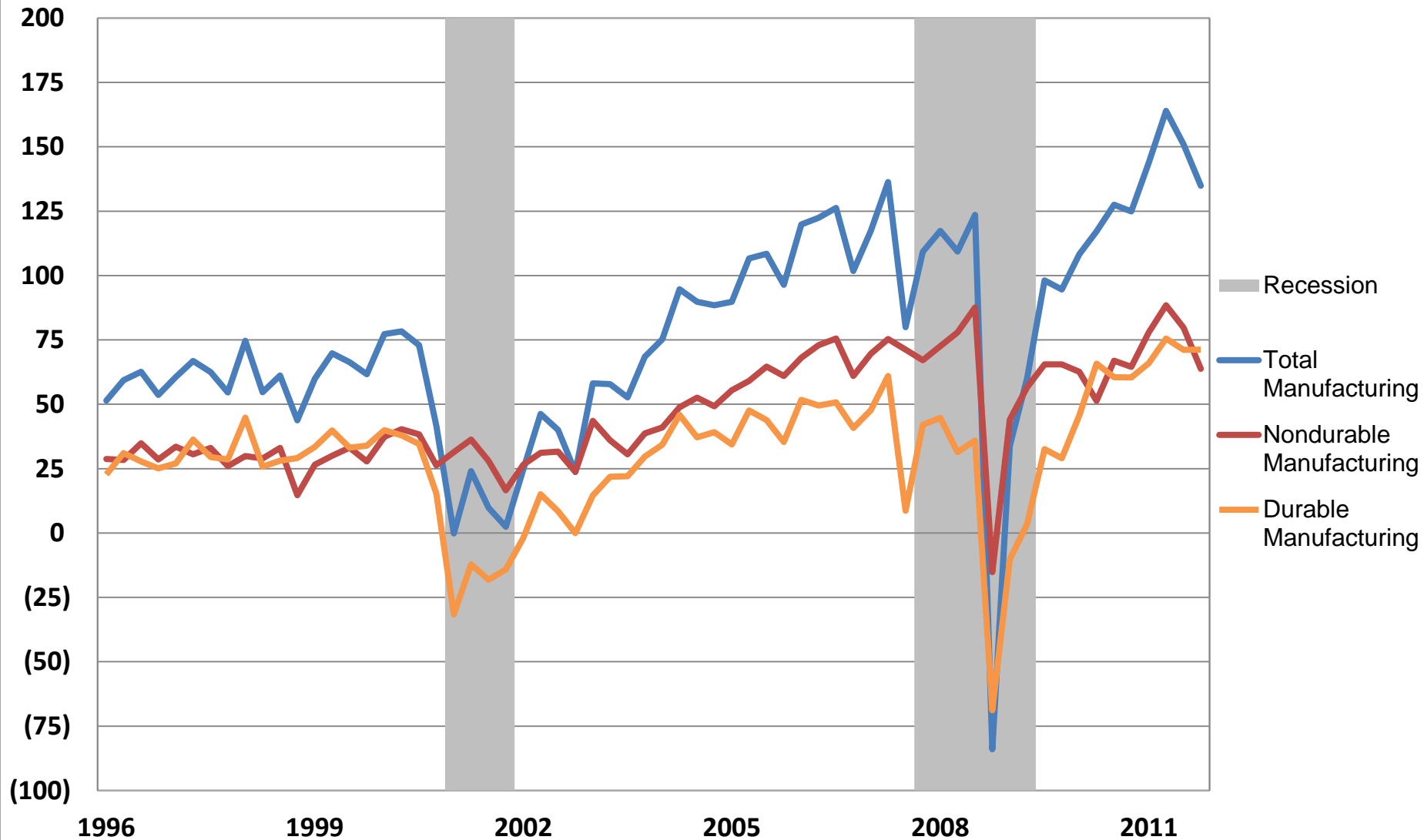


# Percentage of U.S. Manufacturing Total Capital Expenditures for Selected Subsectors: 1996 to 2010



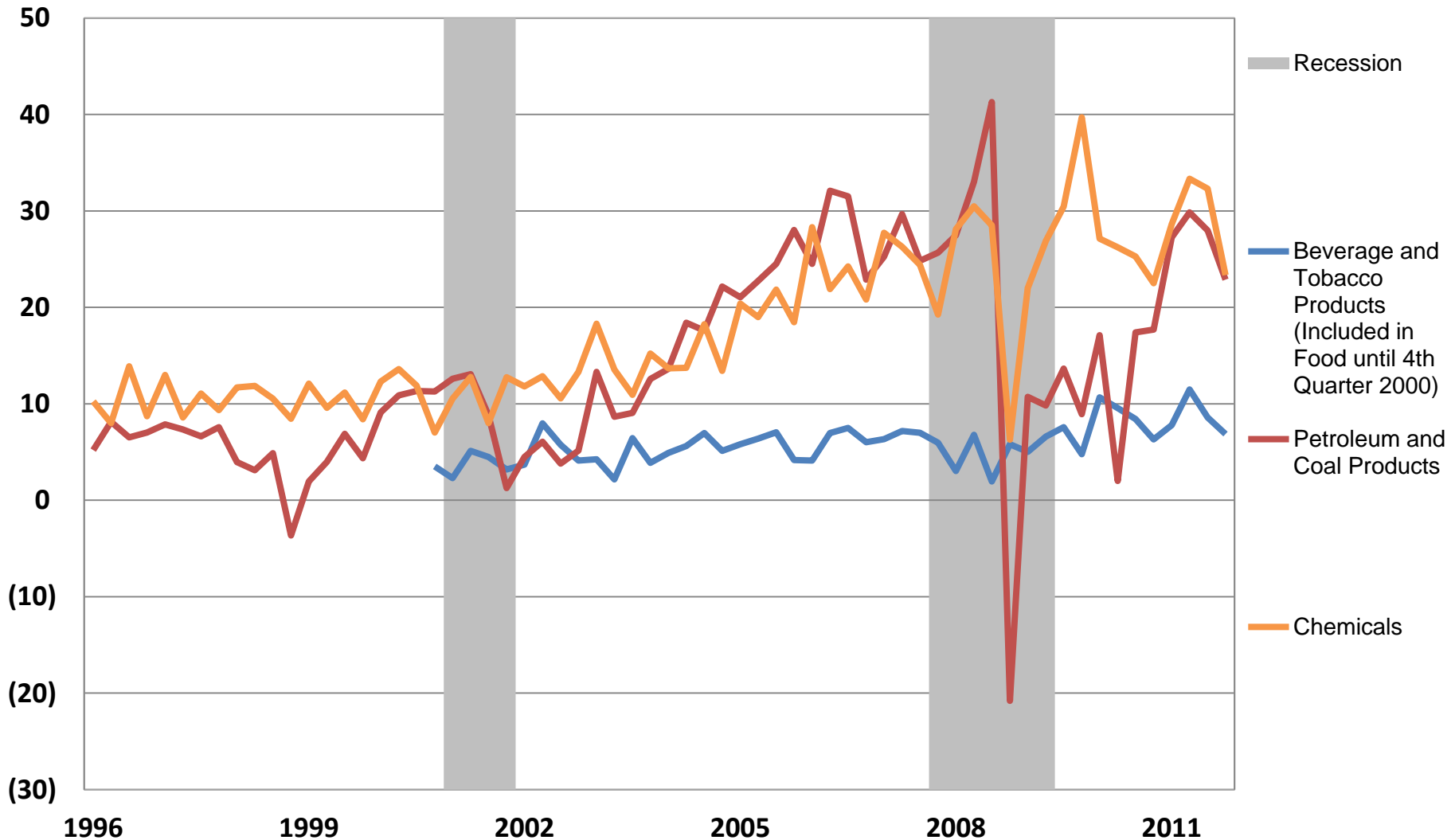
# U.S. Manufacturers - Net Income After Tax

Billions of Dollars, Not Seasonally Adjusted\*



# U.S. Nondurable Manufacturers - Net Income After Tax

Billions of Dollars, Not Seasonally Adjusted\*



\*SIC Classification Basis 1996-2000 NAICS Classification Basis 2001 – Present  
Source: U.S. Census Bureau, Quarterly Financial Report, 1996 – 2011

# U.S. Durable Manufacturers - Net Income After Tax

Billions of Dollars, Not Seasonally Adjusted\*

